## TCT-359

### Prognostic value of the SYNTAX score in patients undergoing Primary Percutaneous Coronary Intervention

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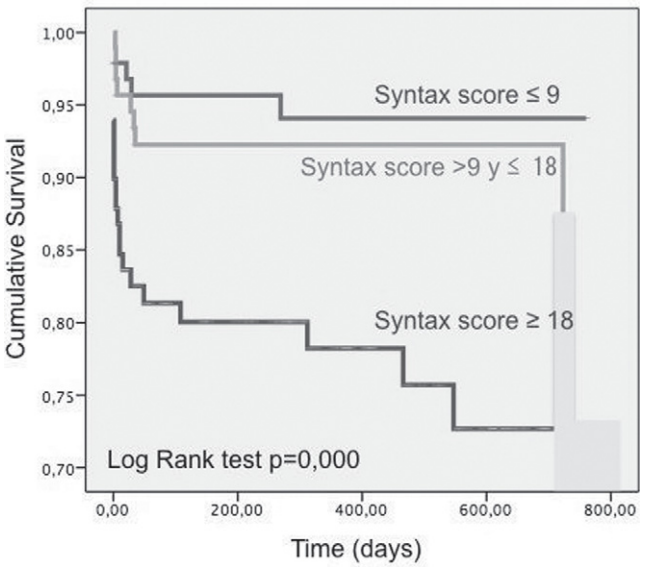
**Background:** The SYNTAX score (SXs), designed to stratify outcomes in multivessel percutaneous cornary intervention (PCI) and coronary artery bypass surgery (CABG), has been validated in unselected populations undergoing elective PCI. Patients with ST-segment elevation infarction (STEMI) were excluded from the original SXs algorithm, the utility of using the SXs in this patient group remains undefinid. The aim of this study was to evaluate the prognostic value of the SXs in a contemporary cohort of patients admitted to our hospital with STEMI who were undergoing primary percutaneous coronary intervention (PPCI).
**Methods:** The study included 310 consecutive patients undergoing PPCI between January 2009 and December 2010. The median SXs was 15,6. We divided the patients into tertiles: SXs (1)≤9; SXs(2) >9 and ≤18; SXs (3) >18.
**Results:** The median patient age was 66 years, 73% were men, 53% had hypertension, and 26.5% had diabetes. Percutaneous access was via the radial approach in 72% of the patients. The culprit artery was the left anterior descending in 42.7% of the patients, 31% had three-vessel disease, and a stent was implanted in 90% of the patients. The median duration of follow-up was 10 months, and 12,6% of the patients died: 12,8% in SXs (1), 30,8% in SXs (2), and 56,4% in SXs (3) (P<0.05)(See Image). The incidence of major adverse cardiovascular events (MACE) at the end of the follow-up was 18%: 12,8% in SXs (1), 27,3% in SXs (2), and 54,5% in SXs (3) (P<0.05). The SXs levels were an independent determinant of mortality in a multivariate analysis [HR IC 95%: 1,071 (1,033-1,110),P<0.05], and were an independent determinant of MACE [HR IC 95%: 1,057 (1,025-1,091),P<0.05].




**Conclusion:** The SXs provides important prognostic information regarding mortality and major adverse cardiovascular events in a cohort of patients with STEMI who were undergoing PPCI.

## TCT-360

### Use Of Thrombectomy Devices In Primary Percutaneous Coronary Intervention

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**Background:** Primary percutaneous coronary intervention (PPCI) is the treatment of choice for ST-elevation myocardial infarction (STEMI). Although this often achieves Thrombolysis In Myocardial Infarction (TIMI) grade 3 flow in the affected epicardial vessel, myocardial re-perfusion is not fully restored in a significant percentage of patients, a phenomenon known as no or slow-reflow. Thrombectomy aims to reduce this by minimizing distal embolization.
**Methods:** We performed a computerized search on electronic medical databases using the terms "thrombectomy" and "thrombus aspiration" to identify randomized control trials (RCTs) that used adjunctive thrombectomy in PPCI for STEMI. Data from 22 eligible RCTs was used for the meta-analysis. Thrombectomy devices were divided into manual and mechanical groups by the presence or absence of a motorized system. Angiographic and electrophysiological end-points were TIMI flow, myocardial blush grade (MBG) and ST-segment resolution (STR) respectively. Clinical outcomes were death and a composite of death, MI or stroke.
**Results:** The risk profile of the treatment and control groups was similar. Thrombectomy device delivery was successful in most cases. Results showed that manual thrombectomy in PPCI is associated with better STR (p< 0.00001), MBG (p< 0.00001) and TIMI flow (p=0.01) in comparison to standard PPCI. There was a significant reduction in death (p=0.04), death, recurrent MI or stroke (p=0.05). Mechanical thrombectomy improved STR (p=0.005) but not MBG (p=0.19), TIMI flow (p=0.91) or clinical outcomes (death p= 0.90, death, MI or stroke p=0.71).
**Conclusion:** The majority of published meta-analyses that studied the role of adjunctive thrombectomy in PPCI did not distinguish between the use of manual and mechanical devices. In cases where aspiration thrombectomy without active thrombus fragmentation was examined devices driven by a motor were included. This up-to-date meta-analysis demonstrates that manual but not mechanical thrombectomy in PPCI improves surrogate markers of reperfusion as well as clinical outcomes.

## TCT-361

### Safety and Efficacy of Biodegradable vs Durable Polymer Drug Eluting Stents: Evidence from a Meta-analysis of Randomized Trials

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**Background:** Drug eluting stents (DES) are a major advance in interventional cardiology; however concerns have been raised regarding their long-term safety due to the permanent nature of the polymer. New generation stents with biodegradable polymers (BDS) have been recently developed. The aim of this study was to perform a meta-analysis of randomized controlled trials (RCTs) comparing the safety and efficacy profile of BDS vs durable polymer DES.
**Methods:** Medline/CENTRAL and Web were searched for RCTs comparing safety and efficacy of BDS vs DES. Safety endpoints were mortality, myocardial infarction (MI), overall major adverse cardiac events and stent thrombosis (ST). Efficacy endpoints were target vessel revascularization (TVR), target lesion revascularization (TLR) and six-month in-stent late loss (ISLL).
**Results:** The meta-analysis included eight RCTs (N= 7481). At a median follow-up of 9 months, as compared to DES, BDS use did not increase mortality (OR [95% CI] = 0.91 [0.69 - 1.22], p = 0.53) or MI (OR [95% CI] = 1.14 [0.90 - 1.44], p = 0.29). Rate of late/very late ST was significantly reduced in BDS patients (OR [95% CI] = 0.60 [0.39 - 0.92], p = 0.02), as was six-month ISLL (mean difference [95% CI] = -0.07 [-0.12; -0.02] mm, p = 0.004) in comparison with DES patients. Rates of TVR and TLR were comparable between BDS and DES.
**Conclusion:** This meta-analysis showed safety and efficacy of BDS that, as compared with DES, significantly reduced the incidence of late/very late ST and ISLL, without increasing the rates of death and MI.

## TCT-362

### The Impact of LV function on the Mortality of Patients undergoing Transcatheter Aortic Valve Implantation

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**Background:** Aortic stenosis patients with left ventricular dysfunction are at increased risk for morbidity and mortality following surgical aortic valve replacemement. There is little published data regarding the outcomes of patients with severe aortic stenosis and left ventricular (LV) dysfunction undergoing TAVI.
**Methods:** Between November 2007 and January 2010, a total of 504 consecutive patients were enrolled. Patients were stratified according to left ventricular function as follows: normal LV function (LVEF >50%), moderate LV dysfunction (LVEF 35-50%) and severe LV dysfunction (LVEF <35%). The baseline and clinical outcomes, up to 6 months, were subsequently compared among the 3 patient groups. Furthermore, we compared survival outcomes between severe LV dysfunction patients with high (>40 mmHg) and low (<40 mmHg) transaortic mean valve gradients (MG).
**Results:** 324 patients (64%) had normal LV function, 111 patients (22%) had moderate LV dysfunction, and 70 patients (14%) had severe LV dysfunction. In the severe LV dysfunction group, 38 patients had a mean transaortic valve gradient >40 mm HG and 30 patients had <40 mmHg. As compared with patients with normal LV function, those with severe LV dysfunction were more likely to be male, have higher STS and logistic EurosSCORES, have more coronary artery disease and previous coronary artery bypass surgery, higher median BNP levels, lower mean transaortic valve gradients and greater aortic valve area. The 6-month mortality was 12% higher in patients with severe LV dysfunction than in those with normal LV function (27 vs. 15%, p-value=0.03). In the severe LV dysfunction group, patients with low transaortic valve gradients had a nearly 4-fold higher 6-month mortality than patients with high gradients (38 vs. 10%, p-value = 0.01).

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